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## THE HEROINES OF BURNS.

SECOND ARTICLE.

It has been said that the visit of Burns to Edinburgh in the winter of 1787-8, opened up a new world to him. One peculiar novelty to which it introduced him was the society of elegant and accomplished women. Such a phenomenon had not previously crossed his path, and it was one calculated to make a deep impression on him. He regarded them with as much admiration as he had previously bestowed on the homely maidens of Kyle, but it was an admiration in which reverence was mingled. His address to them was extremely deferential—so we are informed by Sir Walter Scott—and "always with a turn to the pathetic or humorous which engaged their attention particularly." Another witness, herself a lady moving in the highest walk of life—the late Duchess of Gordon—described the power of his conversation with persons of her stamp by the Scottish phrase, that "nothing ever had carried her so completely off her feet." Amongst the first gentlewomen with whom he formed any friendship, were Miss Margaret Chalmers and Miss Catherine Hamilton, the latter being sister to his friend Mr Gavin Hamilton of Mauchline. A relationship between the two ladies had ripened into a warm attachment, and Burns seems to have always regarded them as a binity of female loveliness and worth, rather than as two persons. An elder sister of Miss Chalmers, by name Lady Mackenzie, added an equally agreeable third to the group. We get an affecting insight into the pleasure which their society conferred on him, from a passage in a letter written by him to Miss Chalmers, after he had retired to the country, to resume his life of obscure toil—"When I think of you—beats the best, minds the noblest of human kind—unfortunate even in the shades of life, when I think I have met with you, and have lived more of real life with you in eight days than I can do with almost any body I meet within eight years—when I think on the improbability of meeting you in this world again—I could sit down and cry like a child!" He never did see any of them again.

During the autumn of 1787, being engaged in writing songs for Johnson's Scottish Musical Museum,\* he resolved to canonise Miss Hamilton and Miss Chalmers. Upon the former—whom he has in prose described as "not only beautiful, but lovely," of "an elegant form," features not regular, but invested with "the smile of sweetness and the settled complacency of good nature," and "a complexion equal to Miss Burnett's"—upon her he wrote his song "How pleasant the banks of the clear winding Devon," in which occurs the following exquisite stanza:—

"Mild be the sun on this sweet blushing flower,  
In the gay rosy morn, as it bathes in the dew!  
And gentle the fall of the soft vernal shower,  
That steals on the evening each leaf to renew."

Miss Chalmers, on the other hand, was the Peggy of

\* We are glad to learn that this valuable repository of Scottish music and song is about to be republished by Messrs Blackwood, with a volume of extremely interesting notes by the late Mr W. Stenhouse, and some additions to those by Mr David Laing.

† Eliza Burnett, youngest daughter of the learned and eccentric Lord Monboddo, was celebrated by Burns in his "Address to Edinburgh," but she scarcely ranks as one of his heroines, not being the subject of any distinct song from his pen. Of her exquisite beauty a faithful and very pleasing representation is given in a work now in course of publication, entitled "The Land of Burns." She died of consumption in June 1790.

his song beginning "Where braving winter's angry storms," and of another beginning "My Peggy's form, my Peggy's face," in which last he chiefly insists on the mental beauties of the heroine—

"The lily's hue, the rose's dye,  
The kindling lustre of an eye;  
Who but owns their magic away!  
Who but knows they all decay!  
The tender thrill, the pitying tear,  
The generous purpose, nobly dear,  
The gentle look, that rage disarms—  
These are all immortal charms."

Miss Chalmers was married in the ensuing year to a gentleman named Hay, and we are given to understand that she still lives, at Pau, in the Pyrenean district of Berne. Miss Hamilton, two or three years later, became the wife of Dr Adair, of Harrowgate, a gentleman whom Burns had been the means of introducing to her; she has long been gone to the land of the generous and faithful.

The year 1787 was drawing to a close, and Burns was contemplating an immediate departure from Edinburgh, when, drinking tea one evening at the house of a Miss Nimmo, in Alison Square, he met a young married lady, named Mrs Agnes Craig or McLehose, who was destined to be one of the most distinguished of all his many heroines. This lady was, by birth, connected with some of the most eminent literary and philosophical persons who flourished in Scotland during the last century. Her paternal grandfather was the Rev. John MacLaurin, one of the ministers of Glasgow, and author of a volume of sermons, one of which, in particular, has been in high repute for a century, as a model of evangelical piety and pulpit eloquence. Colin MacLaurin, the eminent mathematician, and friend of Newton, was brother to this gentleman, and consequently granduncle to our heroine. Mrs McLehose was also cousin to the Hon. William Craig, a judge of the supreme civil and criminal courts in Scotland, and further distinguished as one of the principal writers in the *Mirror and Lounger*, the last of the brilliant line of the British Essayists. The lady was beautiful, possessing in particular very fine dark eyes, and her conversation was remarkable for an intelligent sprightliness and naïveté, though expressed in the phraseology and accent of her native country. Her matrimonial connection had proved, from no fault on her part, unhappy, and she now resided in Edinburgh, with two young children, while her husband pushed his fortune in Jamaica, where he ultimately became chief clerk of the Court of Common Pleas, and died in 1812. It was impossible for two minds, such as those of Burns and Mrs McLehose, constituted alike with superior intellect, and ardent feelings, to meet without being mutually pleased, and becoming in some degree mutually attached. The lady, from her high admiration of his poems, had long wished to know the bard; and when she left the house, Miss Nimmo did not fail to rally the poet on the impression which had evidently been made upon him. Burns, with the prospect before him of quitting Edinburgh in eight days, probably for years, could only express his regret that he had not made the acquaintance earlier. We learn from the series of letters which he addressed to the lady, that he had expected again to meet her after an interval of two days, but on that day met with an unlucky accident, a bruised limb from the fall of a coach, by which he was prevented from attending to his appointment. The accident confining him to his room for several weeks in Edinburgh, gave him an opportunity of cultivating the friendship of Mrs McLehose by correspondence. After writing two or

three letters to him with her usual signature, in answer to one of his, she, in the spirit of romance, took the name of Clarinda, and he immediately followed up the idea by assuming that of Sylvander, as suitable to his rustic education. The fact that she also had some share of the poetical gift was soon made known to him, and on his enclosing for her some of his recent attempts in verse, she returned the compliment by sending him a little poetical effusion, the first of her efforts in that way, which she had some years before, while living at Burntsfield Links, composed on hearing a blackbird singing near what is now St Margaret's Convent in that neighbourhood, the ideas, to use her own words, coming into her mind like inspiration: they are as follow:—

"Go on, sweet bird, and soothe my care,  
Thy tuneful notes will hush despair;  
Thy plaintive warblings, void of art,  
Thrill sweetly through my aching heart.  
Now chuse thy mate and fondly love,  
And all the thrilling transport prove;  
While I a love-lorn exile live,  
Nor transport or receive or give.  
  
For thee is laughing Nature gay,  
For thee she pours the vernal day;  
For me in vain is nature drest,  
While joy is stranger to my breast!  
These sweet emotions all enjoy;  
Let love and song thy hours employ!  
Go on, sweet bird, and soothe my care,  
Thy tuneful notes will hush despair."

Burns, in reply, complimented her on her "fine taste and turn for poesy," and mentioned that Dr Gregory, to whom he had shown the verses, could scarcely be persuaded that they were the composition of a young unknown female. He, in the same letter, spoke of love, such love as genial souls of whatever sex can feel for each other—described himself as a will-o'-wisp being, composed of pride and passion, but too little of a calculator to be capable of forming a design against her—and added what follows:—"Tis true I never saw you but once; but how much acquaintance did I form with you in that once! Of all God's creatures I ever could approach in the beaten way of my acquaintance, you struck me with the deepest, the strongest, and most permanent impression. I say the most permanent, because I know myself well, and how far I can promise either on my prepossessions or powers. Why are you unhappy, and why are so many of our fellow-creatures, unworthy to belong to the same species with you, blest with all they can wish? You have a hand all benevolent to give: why were you denied the pleasure? You have a heart formed—gloriously formed—for all the most refined feelings: why was that heart ever wrung? Oh, Clarinda, shall we not meet in a state, some yet unknown state of being, where the lavish hand of plenty shall minister to the highest wish of benevolence! \* \* \* \* If we do not, man was made in vain."

The word love used in this letter distressed the pure mind of Clarinda, and in her answer she enclosed the following verses—

"Talk not of Love, it gives me pain,  
For Love has been my foe;  
He bound me with an iron chain,  
And plunged me deep in woe.  
  
But Friendship's pure and lasting joys  
My heart was formed to prove;  
There, welcome, win and wear the prize,  
But never talk of Love."

The poet professed to be highly pleased with this epigram, the third and fourth lines of which he considered

worthy of Sappho; and he added the two following verses in accordance with the strain of her letter :—

"Your friendship much can make me blest,  
Oh, why that bliss destroy?  
Why urge the only one request  
You know I must deny?  
Your thought, if love must harbour there,  
Conceal it in that thought;  
Nor cause me from my bosom tear  
The very friend I sought."

And he caused both the former and this poem to be inserted, in connection with proper music, in Johnson's Museum.

The correspondence went on for several weeks, during the confinement of the poet, who, after the first interview at Miss Nimmo's, never saw Clarinda all that time. At length he so far recovered as to be able to walk abroad, and the first use he made of his regained strength was to call for Clarinda. The letters of the poet show how keenly he enjoyed the conversation of the lady on this and similar occasions, during the very short time which he was able to spend in Edinburgh. He then saw, to use his own enthusiastic language, "a bosom glowing with honour and benevolence; a mind ennobled by genius, informed and refined by education and reflection, and exalted by native religion, genuine as the climes of heaven; a heart formed for all the glorious meetings of friendship, love, and pity." Again he tells her, "You have stolen away my soul, but you have refined, you have exalted it: you have given it a stronger sense of virtue, and a stronger relish for piety." Then he pours forth a train of fervent aspirations. He desires to have "the social heart that kindly tastes of every man's cup. Is it a draught of joy? be my heart warm and open to share it with cordial unenvying rejoicing! Is it the bitter potion of sorrow? be my heart melted with sympathetic woe! Above all, may I have the manly mind that resolutely exemplifies, in life and manners, those sentiments which I would wish to be thought to possess! The friend of my soul—there may I never deviate from the firmest fidelity and most active kindness! Clarinda, the dear object of my fondest love—there may the most sacred inviolate honour, the most faithful kindling constancy, ever watch and animate my every thought and imagination!" The whole strain of the letters is one of enthusiastic admiration and attachment, mingled with the bitterest bewailings of that fortune which had condemned them to a speedy and probably unending separation.

He left Edinburgh in February (1788), after addressing her in the four well-known stanzas beginning

"Clarinda, mistress of my soul."

He was soon after married, and from that time no further correspondence took place between them until the end of 1791, when, learning that the lady was about to proceed to Jamaica on the invitation of her husband, who had become very prosperous, he, with his wonted enthusiasm, and a strong impression on his mind that they might never meet again, which was realised, sent three beautiful and now well-known lyrics (all of which, he said, were to be set to favourite old Scots tunes) addressed to his friend, beginning "Ane mair I hail thee, thou gloomy December," "Behold the hour, the boat arrive"—and the following stanzas :—

"As fond kiss, and then we sever;  
As farewell, and then we over!  
Deep in heart-wrung tears I'll pledge thee,  
Warring sighs and groans I'll wage thee.  
Who shall say that Fortune grieves him,  
While the star of hope she leaves him?  
No, nae cheerful twinkle lights me;  
Dark despair around benights me!  
I'll ne'er blame my partial fancy,  
Naething could resist my Nancy!  
But to see her, was to love her;  
Love but her, and love for ever.  
Had we never loved sae kindly,  
Had we never loved sae blindly,  
Never met—or never parted,  
We had ne'er been broken-hearted.  
Fare-thee-weel, thou first and fairest!  
Fare-thee-weel, thou best and dearest!  
Thine be ilka joy and treasure,  
Peace, Enjoyment, Love, and Pleasure!  
As fond kiss, and then we sever!  
As farewell, alas, for ever!  
Deep in heart-wrung tears I'll pledge thee,  
Warring sighs and groans I'll wage thee."

The fourth stanza Byron put at the head of his poem

of the *Bride of Abydos*; Scott has remarked that it is worth a thousand romances; and Mrs Jameson has elegantly remarked that not only are these lines what Scott says, but "in themselves a complete romance. They are," she adds, "the *alpha* and *omega* of feeling, and contain the essence of an existence of pain and pleasure, distilled into one burning drop." In the last letter of the printed collection, dated in 1793, after her return from abroad, which she was compelled to do by extreme bad health, he says, "Before you ask me why I have not written you, first let me be informed how I shall write you! 'In friendship,' you say; and I have many a time taken up my pen to try an epistle of friendship to you. But it will not do. 'Tis like Jove grasping a pop-gun, after having wielded his thunder. When I take up the pen, recollection ruins me. Ah! my ever dearest Clarinda! Clarinda!—What an host of Memory's tenderest offspring crowd on my fancy at that sound! But I must not indulge the subject—you have forbid it." He also tells her, that, when called on in social companies to name a married lady as a toast, her name in an abbreviated form is that which he invariably presents. And so concludes the history of Sylvander and Clarinda.\*

A few other ladies attracted the poetical admiration of Burns during the Edinburgh period of his life. On Miss Ann Masterton, he wrote—

"Ye gallants bright, I rede ye right,  
Beware o' bonnie Ann,  
Her comely face sae fu' o' grace,  
Your hearts she will trepan.  
Her een sae bright, like stars by night," &c.

She was daughter of the Allan of his song, "Here are we met, three merry boys"—a teacher of writing in Edinburgh, and the clever composer of several Scottish airs, of which that to the above song is a favourable specimen. The lady married a gentleman of the name of Derbishire, and now resides in London. Another teacher, Mr William Cruickshanks, of the High School, was an endeared friend of the poet, and in his house Burns lived at the time when he carried on the above described correspondence. Mr Cruickshanks had a daughter, a beautiful girl of twelve or fourteen, who was then beginning to play on the piano-forte, with which instrument she often regaled the bard. He marked his sense of the blossoming loveliness and fine musical talent of this young creature, by composing his delightful song:

"A rose-bud by my early walk  
Adown a corn-enclosed bank,  
Sae gently bent its thorny stalk,  
All on a dewy morning," &c.

Never, perhaps, was a poetical compliment to one so tolerable to the many as in this fine composition. She who stands thus in poetry's celestial globe, became, in prose's terrestrial one, the wife of a gentleman named Henderson, a legal practitioner in Jedburgh; and, if we are not mistaken, she still inhabits our nether sphere. To conclude the heroines of this period, it is only necessary to allude to a lady whom he met in the summer of 1787 at Auchtertyre, the seat of Sir William Murray in Perthshire—Miss Euphemia Murray by name, but more generally called, on account of her personal charms, the *Flower of Strathmore*. Delighted with the conversation of this amiable young lady, he wrote, with reference to her,

"By Auchtertyre grows the aik,  
On Yarrow banks the birken shaw;  
But Phemie was a bonnier lass  
Than brans o' Yarrow ever saw.  
Her looks were like a flower in May,  
Her smile was like a simmer morn;  
She tripped by the banks o' Earn,  
As light's a bird upon a thorn.  
Her bonnie face, it was sae meek  
As ony lamb upon a lea;  
The evening sun was ne'er sae sweet,  
As was the blink o' Phemie's ee."

\* This most interesting woman still lives, but has long been ill, rather than of, the world, as befits her advanced age and infirmities. The letters which Burns addressed to her were published surreptitiously, and by a gross breach of confidence on the part of a literary friend of Graham, the amiable author of "The Sabbath," to whom they had been entrusted in March 1802. The further publication of these letters was afterwards interdicted by the Court of Session, in a law-suit between Cadell and Davies (with the concurrence of Mr Gilbert Burns), and Mr Thomas Stewart of Glasgow, the publisher. The case, which was one of some legal nicety, and was pleaded by several of the most eminent counsel then at the Scottish bar, is reported in the Faculty Collection, June 1, 1804, under the following title :—"Literary Property.—The person to whom letters are addressed has no right to publish them without the consent of the writer." However, within the last ten or twelve years these letters have been published by various booksellers both in Scotland and England, in their editions of the works of Burns.

This lady also still lives, the widow of the late Lord Methven, a judge of the supreme civil court of Scotland.

The heroines of the Dumfriesshire period of Burns's life will form the subject of the next (the concluding) paper.

#### POPULAR INFORMATION ON SCIENCE.

##### THE COLOUR OF THE OCEAN.

THE true and proper colour of water generally, and more especially of the water of the ocean, is a problem which has not been definitively settled to the satisfaction either of the learned or unlearned. It is now engaging the attention, and calling forth the talents, of many of the first philosophers of Europe, and, thus prompted and directed, we have thought it might form a suitable subject for a few observations in our pages.

We shall first adduce some of the evidence upon which it is maintained that the proper colour of water is blue. Our distinguished countryman Mr Scoresby compares the general tint of the Polar Seas to *ultramarine blue*; M. Cotar, an eminent French observer, likens the water of the Mediterranean to a perfectly transparent solution of the most beautiful indigo; and it is by the words *bright azure* that Captain Tuckey characterises the waves of the Atlantic in equinoctial regions. Again, as to fresh water, Sir H. Davy assigns *bright blue* as the hue reflected by water procured by the melting of pure snow and ice; and Professor Hugi of Soleure thus communicates the result of his observation upon the glaciers of the Alps :—"The colour of small detached fragments of a glacier is decidedly white and clear; but if we examine a greater mass, as the thickness increases it becomes of a blue colour, gradually more deep; it is at first sky-blue, scarcely discernible, then a fine enamel blue, and, lastly, a very deep azure blue. Finally, with regard to water generally, Count Xavier de Maistre informs us that limpid waters of sufficient depth reflect, like the air, a blue colour from their interior, having, however, a darker shade, from not being intermingled [as the air] with white rays."

These numerous and explicit statements of philosophers perfectly harmonise with the views of our practical seamen, who well know, that, in the free ocean, the water is generally of a deep blue colour during the time of calm (when the wind prevails, the tint changes); and such is the importance the mariner attaches to this hue, that, if it disappears, he is apt to apprehend he is approaching soundings; and shoals, reefs, and coasts, the sources of his danger, force themselves upon his awakened fears.

The cause of the generally blue colour of the deep sea has not been as yet clearly explained by philosophers; but it seems to be accounted for by reference to certain principles connected with the science of optics. Probably most are aware that light consists of the set of colours which we see so beautifully displayed in the rainbow. Now, it is a law of light, that, when it enters any body, and is either reflected or transmitted to the eye, a certain portion of it, consisting of more or less of its colours, is lost in the body. The remainder, being reflected, strikes our visual sense, and, whatever colour that may be, the object seems of that colour. Now, it chances that the portion of light most apt to be reflected from masses of transparent fluid is the blue; and hence it is, or supposed to be, that the air and sea both appear of this colour.

While there can be no doubt that the ocean is generally of a blue colour, it is equally certain that there are many portions of sea in which a different hue appears. The causes of these exceptions from the rule seem to be of various kinds. Frequently, the ordinary colour of the sea is affected by the admixture of foreign substances, these being sometimes of a living and organic nature, and sometimes the reverse. The most simple example of the latter class of cases is the common flooding of any stream, when quantities of mud and earthy particles are introduced into the river, and emptied into the sea. What is thus strikingly seen on every coast, on a small scale, will readily be conceived to be of infinitely wider extent in the mighty rivers of the principal continents of the globe. Thus it is with the great streams of South America, where the Plata forms a sloping bank which extends 100 miles into the Atlantic, and still more conspicuously in the mighty Amazon, with a course of 3000 miles, and a breadth at the mouth of 150 miles. Its immense body of water often rushes with a dreadful impetus and velocity into the ocean, freshening its waters to the distance of 250 miles from shore.\* Hence, then, in such circumstances, the mariner, when still far from land, is not surprised when he ploughs an ocean quite of a brownish hue. It is from the same cause that the well-known *Yellow Sea* acquires its appearance and appropriate name. Mr Barrow estimates the quantity of yellow-coloured mud which is transmitted by the Hoan-ho or Yellow River, whose course is 2000 miles, at 2,000,000 of solid feet an hour, or 48,000,000 a-day, or 17,580,000,000 a-

\* Tuckey's *Mar. Geography*, iv. 317.



year. "Supposing," he adds, "the mean depth of the Yellow Sea to be 120 feet, the quantity of earth brought down would, if accumulated together, be sufficient to fill up to the surface of the sea, an island of the extent of a mile square every 70 days."† The testimony of Captain Basil Hall is quite satisfactory as to the result of all this. "The water of this sea (the Yellow) over which we were sailing, was contaminated by the intermixture of mud slightly yellow in its colour. We sailed on directly across this sea for two whole days without seeing land, and gradually diminishing the depth of water, till at last we began to have some apprehension that we should fairly stick in the mud. It was soon afterwards discovered that the brig was actually sailing along with her keel in the mud, which was sufficiently indicated by a long yellow train in our wake. Some inconvenience was caused by this extreme shallowness, but there was not in reality much danger, as it was ascertained, by forcing long poles into the ground, that for many fathoms under the surface on which the sounding-lead rested, the bottom consisted of nothing but mud formed of an impalpable powder, without the least particle of sand or gravel."‡

Still more striking results arise from living vegetables and animals. The influence of vegetables in colouring large masses of water, may be illustrated by a reference to the Lake of Geneva, and the Red Sea. The waters of the lake usually are of a fixed pale blue colour, the delicate beauty of which arrests the admiration of every traveller. But while such is the proper colour of these waters, yet occasionally, though rarely, they are as decidedly of a green hue; and we have it upon the authority of Sir H. Davy, that on these occasions the change of colour is produced by the water being impregnated with vegetable substances. And respecting the Red Sea, let us hear the testimony of the eminent naturalist Ehrenberg. "I was for many months at Tor, on the Red Sea, near Mount Sinai. I there observed the striking phenomenon of the whole bay being of a bloody colour; the main sea, beyond the coral reef, was as usual colourless. The short waves of the calm sea carried to the shore a blood-coloured shining mass, which it deposited on the sands, so that the whole bay, fully half a league in length, at the ebb of the tide, exhibited a blood-red border more than a foot broad. This appearance was not permanent, but periodical. It attracted my attention as explanatory of the name of the Red Sea, a name hitherto of difficult explanation. Upon examination, this colour was found to be produced by one of the Algae, a marine vegetable, which M. Ehrenberg particularly described."§

The extraordinary part which animals play in colouring the ocean, may be demonstrated by alluding to the vast tracts of the northern sea, which among mariners are familiarly known as green water, and which do not, under any circumstances, assume a blue tint. Mr Scoresby thus describes them:—"After a long run through water of the common blue colour, the sea became green and less transparent. The colour was nearly grass-green, with a shade of black. Sometimes the transition between the green and blue water is progressive, passing through the intermediate shades in the space of ten or twelve miles; at others, it is so sudden that the line of separation is seen like the ripple of a current, and the two qualities of water keep apparently as distinct as the waters of a large muddy river on first entering the sea. In 1817, I fell in with such narrow stripes of various coloured water, that we passed streams of pale green, olive green, and transparent blue, in the course of ten minutes' sailing."|| These green regions extend for tens of thousands of miles, and it has been distinctly proved that the peculiar colour is produced by innumerable multitudes of microscopic animals, principally minute sea blubbers, medusae, and the Infusoria lately brought under the notice of our readers. Some of these animals are green, and directly produce the colour which is exhibited, but many more are yellow, which colour, combining with the blue of the sea water, will also, as every one knows, produce a green tint.

Other appearances, proceeding from a similar cause, and, if possible, still more striking, are also witnessed. Thus, a red colour, sometimes characterised as blood or carmine red, frequently astonishes the voyager. The water of the Gulf of California in the Northern Pacific is reddish, whence it is sometimes named the Vermilion Sea.¶ Captain Colnett, in the interesting account of his voyage, states—"That the set of the currents on the coasts of Chili, may at all times be discovered by noticing the direction of the beds of small blubber with which the coast abounds, and from which the water derives a colour like that of blood. I have often been engaged," he adds, "for a whole day in passing through various sets of them." The celebrated naturalist D'Orbigny makes similar remarks concerning the waters of the Atlantic. "There are immense tracts," says he, "off the coasts of Brazil, filled with small animals so numerous as to impart a red colour to the sea; large portions are thus highly coloured, and receive from the sailors the name of the Brazil Bank. This bank extends over a great part of the coast of that country, keeping at nearly the same distance from the shore. Another bank of the same sort occurs near

Cape Horn, in latitude 57 degrees. Captain Cook, in his third voyage, encountered the same appearances, and states, "that on examination the phenomenon was found to proceed from an infinity of little animals which, when viewed by the microscope, had the shape of cray fish of a red colour."‡ Hence we are not to wonder, that, according to an intelligent mariner, "the southern seas sometimes presented an appearance which terrified their early navigators, who, seeing large spaces of the sea of a blood-red colour, conceived it a portent of some dreadful catastrophe."§ These singular appearances are not, however, confined to southern regions. At all events, Mr Scoresby narrates, that he noticed in his last voyage, in 1823, some insulated patches of reddish-brown water, which were found to be occasioned by animalculae; and often, too, were the icebergs and snows tinged with an orange-yellow stain. "The animal," he adds, "which gives this peculiar colour to the sea, is about the size of a pin's head, transparent, and marked with twelve distinct patches of a brownish colour. The same appearances have not unfrequently been noticed in fresh water; and, under the name of blood-rain, have sometimes caused no small alarm over wide districts. We must not on this occasion attempt to account for all these appearances, but may note, that M. Ehrenberg, in the steppes of Siberia, examined some of these waters. "In a fen," he remarks, "with a pool of water, the dark-red blood colour was very striking, even at a distance. This colour, I found on examination, was confined to the slimy surface, which in different places formed a shining skin. The red colour was darkest up the edge of the marsh. M. Chantreau, in the year 1797, examined in France a pond which exhibited the same appearances, the water being of a brilliant red colour, with a shade between cinnamon and carmine; as did Weber in Germany, near Halle, in 1790. In all these latter instances, the colour was produced by infusory animals. Milk white is another colour which is not unfrequently mentioned. Thus Captain Tuckey states, that, near Cape Palmas, upon the coast of Guinea, his vessel appeared to move in milk, which circumstance arose from the multitude of animals upon the surface, which obscured the natural colour of the liquid. And once more, the existence of a yellow-coloured sea from the same cause is satisfactorily established. "In approaching the south point of America," says Captain Colnett, "we this forenoon passed several fields of spawn, which caused the water to bear the appearance of barley, covering the surface of a bank."||

These causes of varied colour in the ocean, however striking in themselves, are not likely to mislead any one as to the inherent colour of its waters. It is different, however, with the class of causes to which we now proceed, and which we may arrange under the head of the reflection of coloured rays from the bed or bottom of the sea. Sometimes, indeed, though rarely, these appearances are quite as singular as any we have hitherto considered. Thus, in the Bay of Loango, the waters are almost always of a deep red colour; so much so, that they are said to be mixed with blood, and Captain Tuckey satisfied himself that the bottom is intensely red. Let us substitute for this bright red bottom one of the same shade, but obscure and slightly reflecting, and the water of the Bay of Loango would then appear of an orange-yellow colour. (Arago). Far more frequently, however, the bed of the sea is of a yellow rather than a red hue; and if this colour is at all bright and strong, the slight blue of the pure water will scarcely affect it, and then the waters will appear yellow; a tint which, let it be observed, is in fact by no means uncommon on many sea-shores. But bright yellow is by no means so common a tint of sea-sand as is dull or obscure yellow; and this, owing both to its own proper colour, and also to its being obscured by a great mass of superimposed water. When the yellow hue is thus reduced, the feeble ray reflected from the bottom, mixing with the pale blue of the ocean, produces, as is universally known, a green tint, which is communicated to the water; and this is one of the most widely spread modifying causes of change in the proper colour of the sea.

But the most difficult part of the problem still remains; and that is, to account for the green colour of the ocean in those places where it is hundreds and thousands of fathoms deep, and where, of course, every thing like reflection from the bottom is quite out of the question. In a previous column, when referring to the opinion of practical seamen, we noticed that their inference as to security, from the blue colour of the water, was limited by the condition of its being a time of calm. Accordingly, when the wind and waves rise, and even at other times, when the cause is not a little obscure, the colour frequently undergoes a very remarkable change, generally to a deep green. M. Arago, to account for the phenomena occurring under such circumstances, offers a theory which resolves itself into the same principle as that upon which the appearance of the green tint in shallow water was based, namely, that when the surface is troubled, the luminous rays, coming from the waves to the eye, consist more of transmitted rays than of reflected rays, and, therefore, are green. According to this view, the appearances exhibit themselves only during a breeze which disturbs the surface, and in the midst of a swell, so common over the ocean. The observer stands upon the deck of the vessel, the billows often overtopping the level of the ship; the luminous rays which reach the eye from the sea must have passed from the distant horizon through one or more of the watery ridges; thus the transmitted rays have pre-

dominated over the reflected ones, and so, according to the allowed fact, must be green.

There are still a few additional facts which we should have been happy to have introduced into this discussion; but our limits forbid. M. Arago refers his speculations to the examination of those who have opportunities of actual observation, and can test their experiments by methods concerning which this is not the place to enter. In the mean while, the general reader may rest satisfied with an explanation, which accounts for the usual appearances, and which possesses much of the simplicity and verisimilitude of truth.

## THE COAL-CARRIER.

A STORY.

"I GIVE you just twenty-four hours to write me a tale. A tale of some kind I must have. I must school you into authorcraft, for by that you are to live. If you do not therefore accomplish this task in the time specified, you may seek another home." Such was the unfeeling speech of Lord Arnley, a nobleman of capricious temper, to his humble dependant Charles Sevenetti. The youth, on hearing the mandate, was left alone in his little study, to consider of the bitter words which had just been uttered. He took up a quill, made it slowly into a pen, wrote his text on a sheet of paper, read it a dozen times, threw down his pen, and, equipping himself for a walk, suddenly left the house.

Lord Arnley was a man of great wealth, although, when he entered into life, he had scarcely an income adequate to the most narrow support of his hereditary baronial dignity, and had he died at the age of twenty-one, he would have left behind him such a character as many an untired youth has bequeathed to posterity. "Economical, without meanness; generous, without prodigality; gay, without licentiousness; mild, without cowardice, with perhaps a lurking ambition which would probably have budded forth into great deeds." Such, and far more, might have been the eulogy of Lord Arnley, had he made his final exit from the stage of life, thirty-two years before the time at which our narrative commences.

But Time, the great developer of humanity, rendered a somewhat different epitaph necessary. Lord Arnley had been brought up in the country, with such habits of moderation as suited his income; but, on mingling with the world, and having his eyes opened to the luxuries of life, he was smitten with an insatiable love of splendour. This at length seemed to tire him, and he sought new pursuits. All, however, did not bring him happiness. Something apparently had occurred to distract him; but of this there were only mysterious surmises. When all had wearied him, he one day, about two years before the date of our story, read a little story which Charles Sevenetti, an inmate of his own house, and a dependant of his family, had written for the amusement of Lady Clara. From that moment he might be said to seize upon the mind of the youth with a strange and novel voracity, seeking to explore its inmost recesses, and continually taxing his own invention for subjects whereupon the unfortunate lad should exercise his talents.

Lord Arnley had, when very young, fixed his affections on a lady of singular beauty; she preferred another, and matrimony seemed, like all the other chances of his life, destined to enrich him. A wealthier, though perhaps less lovely and less beloved dame, sought him; he married her; she presented him with Lady Clara, and in three or four years afterwards he became a widower, in which state he remained. The fair sex, after his first attachment, never seemed to form a part of his passions; his parental love, however, was intense, which, with a wandering life, and his freaks upon Charles Sevenetti, had for the two last years in some measure occupied his mind. He had now got from the extreme south of England to almost its extreme north, and there we shall leave him, in order that the unfortunate Charles may tell his tale.

At ten next night, exactly thirty-six hours after the mandate had been issued, Charles Sevenetti descended to the library of Lord Arnley. He entered; his lordship raised his head from a volume which, probably, he was not reading; Lady Clara had the flushed look of hope fulfilled, and the happy protégé, as the world termed him, cast down his eyes lest their expression should be remarked. His lordship tried to look benign, and beckoned to a seat. Charles continued standing, and said, "My lord, here is the tale; and such as it is, I have little share in it, excepting in the character of a mere narrator. Shall I have the honour of reading it, my lord?" "Assuredly; you know I never take the trouble to drag myself through manuscript." "I shall continue standing, if you please." "As you like," said Lord Arnley; "Clara, my love, it is time for you to withdraw." "May I not remain, papa?" "I had rather not," was uttered imperatively. Charles was not sorry, for he felt that the story which chance had thrown in his way, and which, under the pressure of circumstances, he had been forced to avail himself of, was not suited for her ear. "Your eyes seem in the door," said Lord Arnley. Charles started, and instantly began.

"A student was one day labouring under a severe depression of spirits. His reason told him that his mind ought to be equal in various ways to remove the load which lay upon him, but reason urged him in vain. After struggling against many contending passions, perhaps I should rather say emotions, he darted into the open air, and bent his steps to one of the

† Ross' Cyclopædia.

‡ Voyage to Loo-Choo, chap. I.

§ Edinburgh New Philosophical Journal, x.

|| Arctic Regions.

¶ Tuckey, i. 94.

town suburbs. It was rather a genteel place, but yet its inhabitants were humane enough to permit a poor apple-woman to erect her little stand in their close vicinity, and a few wretched coal-porters to find a sort of shelter from the blast, by placing themselves at the end of the last house of the row. When he reached these poor creatures, he stooped to examine the eight or nine grimed faces which were before him. A little brisk woman made two or three steps in advance, as if expecting his orders. A dark gruff fellow asked where he should go to. A pair of females both started up, for some were sitting on the cold stones, and said, "We gang thegither, and carry in a load for three pence." "For three pence?" said he emphatically; "what will that do for two persons?" "Get us our breakfast, and something ower." Out of seven or eight men and women, all accosted him by word or movement, excepting an old man. This individual stood with his eyes fixed on the ground, his whole air bespeaking dejection, but no anxiety. He was of the short middle size, seemed to have been well formed, though perhaps never robust, and his features had in them a regularity and delicacy, which, even in his present condition, might be termed elegant. Broken down as he appeared to be, it was impossible to guess at his age; he looked fifty-five, but he might be only fifty.

The young man felt himself drawn towards this person as if by a magnet; his feet moved unbidden to the spot where he stood; he imagined him a man whose feelings might be as nice and acute as his own, between whose former and present situation there was perhaps as great a disparity as if he should one day be in the same state. Almost unconsciously he addressed him with, "And so, my poor old man, you are still carrying coals?" The construction of the sentence implied a former acquaintance, and the man looked up as if he expected to see some one to whom he was not a stranger.

"The man answered, 'Yes, I carry coals, sir, when any one asks me.' 'You are not fortunate, then, in this way of life?' 'Fortunate!' said he, as if surprised at the term being in any way applied to him, and he added nothing more excepting a kind of laugh, which seemed to say, 'It is long since good fortune and I parted.' 'Come along with me,' said the student, and he led the way to what is called the town moor." Lord Arnley here looked up, as if the story were disagreeable to him, and appeared inclined to interrupt it, but presently cast his eyes again on the volume which still lay before him. Charles proceeded. "'And what do you get for carrying in a load of coals?' 'Any thing you like,' replied the poor man, fixing his eyes on the face of the querist; 'but it seems strange that such as you should come on an errand like this.' 'Such as me?' said the youth, and he surveyed his dress, which chafed to be very plain. 'You may always know a gentleman by his voice,' said the poor man.

The student did not decline the compliment, but, being still under the influence of a depressed spirit, he said, 'God knows I may one day be as you are.' 'Impossible,' said the coal-carrier, 'for the same disease which would unfit you for better labours, would equally unfit you for this. Unless indeed derangement—a madman may carry coals.' 'And why, my poor man, are you in this situation? Your mind seems far more fitted for labour than your body.' The man sighed, looked hard in the face of the student, and said, 'May I ask if you really require my services in my poor calling?' 'No, I do not; but the fact is, I have this morning left my home, if such I may call my place of abode, in quest of materials for a tale.' 'You are an author, then?' 'I have no occupation—no profession—no trade—and, I fear, no capacity for the only resource which seems destined for me. I depend upon one (here the voice of Charles grew husky, and he almost repented of his boldness in introducing the sentiments which followed), who, in the language of the world, has been unprecedentedly kind to me; for the orphan of a domestic had no claims beyond sustenance and a mere trade. I certainly have been brought up—as—yes, I must say it—as a gentleman. But I had rather have been the free brat of a gipsy, than the sport of fit-and-start kindness.' The student here checked himself all of a sudden, as if surprised at his own unwanted and uncalled-for openness, and to such an auditor. 'I will not,' said the man, 'profess to be honoured by your confidence, for you cannot intend to place any in such as I, but—and he fixed his sunken though still fine eyes on the youth's face—'it is remarkable that there is betwixt my early condition and yours a certain similarity; and although I have never told the cause of my misery to any other than a priest, I shall in all but names tell you why I am thus. I am the son,' said the old coal-carrier, 'of a man who, thirty years ago, kept a respectable inn in the town of—I shall call it Bristol, but we lived more to the south. It was my misfortune to be endowed with a most singular beauty of countenance; no one—I speak of the immediate period at which my short history commences—no one ever saw me without stopping to inquire who and what I was. When in my fifth year, chance sent to our house—for it was not a hotel—Mr C—, his lady, and little son, then about my own age. I unfortunately attracted the notice of this group; the boy declared he could not live without this pretty playfellow; and, finally, as he was an only child, heir to an immense

property, and not much contradicted, my father was prevailed upon to part with me, under the promise, which was solemnly kept, that I should be well cared for. I was educated with, and like, my young master, until he went to Oxford, when it was deemed proper to separate us, and have me taught the routine of law business, so that I might be fit for the office of a confidential secretary in the family. Just when young Mr C— came of age, his father died, leaving him sole heir to one of the first properties in England. His lady mother, though handsomely dowered, remained with us. I say us, for though I never ate with the family upon any occasion, yet in all else I was like one of themselves. In his twenty-third year, my master became attached to a young lady; she had no fortune, but as she had recently refused an earl, young and handsome, Mr C— was well assured that interest had no share in her choice. Indeed, who could look upon her and suppose that she had a quality in common with ordinary clay. She was—"Describe her at your peril," said Lord Arnley, breaking in on the relation, and flashing a look at Charles Sevenetti, which was not to be parried. He therefore cast his eyes to the next paragraph, and Lord Arnley bent his forehead upon his extended palms, as they lay before him on the table; nor did he again raise it, until the coal-carrier's narrative ended.

"Within a year after their marriage, she presented him with a lovely boy, having the fair delicate skin of his mother, with the dark hair, black eyes, and high features, of his father. In six months after this happy event, which was celebrated as if joy were immutable, I saw that my lovely mistress was somewhat altered. She seemed languid; her eyes were dull; her dimples were less frequently in play, and the slight peach-like bloom of her cheek had disappeared. I have always observed that, in cases of alarm, excessive love runs into either of two extremes. His was the extreme of blindness; but when at last the paleness of her cheek was occasionally varied by the mark of consumption, the fatal red spot, and the lately dull eye shone forth with a new and alarming brightness, his solicitude was of the most agonising sort. I need not dwell on what I can never forget; she sank by degrees; and before her head was laid in the grave, I had the misfortune to observe, that anxiety and unceasing vigilance had shaken the constitution of my master.

I urged change of scene, and accompanied by the young heir, and a suitable train of attendants, we set sail for a climate more adapted to a sinking frame. Mr C— lingered for some months, while he seemed completely divided between indifference to life on account of his irreparable loss, and an intense desire to protect his son. With a broken heart, he saw that his doom was fixed, and, committing his boy to my care, a charge which I never doubted to fulfil, he departed this life. We sailed for England. My charge was two years and a half old; I never lost sight of him for one moment; could he be otherwise than dear to me! Oh, human nature, thou frail thing! When almost touching our native shore, we were overtaken by a dreadful tempest; destruction at last became inevitable, and the vessel literally went to pieces. On the instant of certain danger, I had wrapped my unfortunate charge in a large sheet of silk oil-cloth, which had been used for some of the fine packages. As I stood upon the last raft, I could descry a portion of his own domains, and the abode of his next heir. For some time I was true to my trust. How shall I tell you the rest! The moment of mortal and of moral trial came. Had I encumbered myself with the boy, I must have perished. One only could be saved; at least I thought so, and in that I am now afraid I was in error. Here the poor man's agony choked him. At last he went on with, 'I quitted my charge, and saved my own worthless life.' Again he paused, and then continued, 'I do not know why I have told you all this, or how it is that I am more than usually affected, for time sears in some measure the worst sores, and I abhor myself most when my anguish is least acute. I reached the shore, stunned, worn out, and, far worse, conscience-smitten. I abandoned myself to want and beggary, and sought, in all that was most foreign to my former delicate and luxurious habits, to find a kind of punishment for my great sin. I had seen in a newspaper an account of the shipwreck of the Ann, and a statement that every soul on board had perished. At last I became Catholic, and sought comfort in a rigid discharge of church discipline. But I thought the good priests I met with too soothing, when in general they sought to console me on the plea that at such a moment human nature could scarcely be expected to call its more noble qualities into action. Their lenity disappointed me, and I longed for some severe infliction. I wandered from place to place, and at last reached this town, where I understood that a stern priest exacted the last tribute to remorse. I laid my heart open to him. He said that my crime was of the deepest dye; that the weakness of human nature formed no excuse; that I had been actuated by the mere paltry love of life; and that, in the stimulant of some active passion, he could have beheld a better apology. I had forgotten the long, long debt of gratitude, the brotherly kindness, I had experienced from a superior, and the very peculiar sacredness of my trust. "To such a culprit," said he, "beggary is luxury. To want you must add labour of the meanest order, eat no bread but what you work for, and take no labour that is not offered." The mandate suited the nature of my compunction;

and hence, after a lapse of twenty long years, you see me in the most revolting employment I could devise." Here (continued Charles) the coal-carrier's narrative ended. The curiosity of the student was whetted, and he resolved to quit his present abode next morning, and travel to the coast of —. "The coast of what?" said Lord Arnley, starting up and fixing on his protégé a look of ferocity; "the coast of what?" he repeated. Poor Charles had been strangely excited by the unexpected emotions aroused by his tale in Lord Arnley. The youth had only sought to make the story the vehicle for expressing his weariness of the life he led. But Lord Arnley's last and most fierce exclamations fairly overcame the spirit of the unhappy youth; his knees smote against each other, and he returned the desperate gaze of his patron with that unsteady wavering eye which bespeaks doubt and apprehension.

They stood thus for some moments, perhaps minutes, during which time a rapid revolution seemed to take place in Lord Arnley's mind. "Young man," said he, with something like calmness, "I cannot be blind to the conflict which you are enduring. I am not blind to it; but while I perceive a conflict, I cannot guess at what is actually passing through your mind. Go to rest. Come to me at eight to-morrow morning, and, in the mean time, while something good predominates in my heart, receive and follow advice. Never be smitten by a love for the toys of life; you will find them as unsatisfactory, as unqualified to satisfy all that is rational in man, as are to a mountebank the bells which jingle round his ears. Would for the sake of mankind—for the credit of human nature—would that I stood alone! but a toy-loving nation must, unless renovated, come to that destruction which is now ready to overwhelm me."

Charles retired to his room, and threw himself, dressed as he was, upon his bed. His mind was disturbed to agony. His story, such as it was, had, from some unknown and mysterious cause, caused the father of Clara some painful emotions. "Was it not ungrateful," thought he, "to have alluded to Lord Arnley's fitful conduct towards himself! But on the other hand, was an involuntary dependence to crush in him all that was manly! Is it a fear," said he, "that I shall be dismissed on the morrow, which thus shakes every nerve of my frame! Such a fear shall no longer have any power over me. Have I, the son of a foreign domestic, picked up in a foreign land, any right even to look at Lady Clara, far less to think of her, and to make her the loadstone which perpetually draws me back after my foot is on the very threshold to depart? This shall no longer be. To-morrow at nine I leave this house for ever." He accordingly wrote a letter of thanks to Lord Arnley for the support he had afforded him, with a brief and somewhat haughty apology for any occasional want of respect or appearance of ingratitude. This letter he resolved to deliver in person at a last short interview. After this he packed up his moveables, and then sought, though still dressed, a little repose. At eight next morning, which was exactly an hour sooner than his lordship's valet generally waited upon him, Charles entered Lord Arnley's room with the agitation of the evening before considerably augmented. He held in his hand what he deemed his last letter to the man who, though dispensing his bounty painfully, had yet given him a seat at his own board, with education, food, and raiment. It was the depth of winter, and in a room well curtained with the deepest green, Charles could not fail to feel himself in almost utter darkness. There was a relief in this: he paused—listened for a word of recognition, next for a breathing—he heard neither. "He talked of opium," thought Charles; "it has produced, as is common, a late effect." He sat down by a window, glad of even a short respite from the fulfilment of his intention. Dark as it was, he imagined that, after a space, he might be able to see where Lady Clara's picture hung. He knew it was opposite to Lord Arnley's bed. "Surely," thought he, "I might discern the shining frame, and the white dress." No, all was black. At last he rose from his seat, walked on tiptoe, and put his hand upon the picture. It was covered with a piece of cloth. The circumstance was but a trifle, yet at that particular moment it seemed portentous.

Surprised at the silence and darkness, he opened a small part of a window-shutter, and saw that a table-cover had been thrown over the picture. Letting in more light, he saw upon a table by the bedside a large empty phial labelled "laudnum," and a letter sealed with black. It was directed to "George Clitheroe, Esq., hitherto known by the name of Charles Sevenetti." He tore it open, and read as follows:—"I am far more guilty than the feeble-minded old man whom you met last night, and whose narrative related to your parents, and your supposed death. I was your mother's rejected lover; I was your father's heir. I hated him; and that hate, with my thirst for luxurious toys, led me to crime and misery. I have long led a life of suspicion and dread, and you have been its main object. Strange to say, I feared, from the very commencement of your story last night, that you had met the old man, the unfaithful servant who had left you to the waves, and the only person who could reveal your history, if he had known you. That old man I know well. I watched him long from fear; but at last I lost all dread on his account. But this is yet myste-



rious to you; it may soon be explained. By a most wonderful chance I picked you up on that fatal morning of your shipwreck. I had a retainer in Italy, who told me of all your father's movements, of his death, and of your sailing in the *Ann*. An anxious restlessness seized upon me. I was never distant from the shore. I had seen a vessel in the offing the night previous to the wreck, and, viewing her through my telescope, persuaded myself it was the same which bore the little person that stood betwixt myself and wealth to my heart's utmost desire. A tempest came on in the twilight; wrapped in a large cloak, I watched its progress through the night; the brig went to pieces, and—good God!—you were rolled to my very feet. Something told me—assured me—it was the child whose death I had almost half wished. The temptation was too strong. I walked some miles along the coast, until I arrived at a miserable hut, examined your clothes, and found that I was right. You had revived during the walk, smiled in my face, but I had nothing worse in me than to conceal you, and I resolved to care for your life. I easily imposed a tale on the peasant, left you in her care until I procured a horse, and, wrapping you up in my cloak, galloped to London. By a series of stratagems I contrived to bring you from Italy as the child of a servant who had previous to his death rendered me an essential service. This is all I need say—the subject is death—and the dread cup stands before me which will place me beyond your just resentment. Lady Clara and you love each other. Be happy, but conceal from her the guilt of her father; and let her think, as all but you will be inclined to think from the seeming happiness of my earthly fortunes, that my death was accidental. I have left her my injunction, as if of old date, to give her hand to you; and I know, for I have long read her eyes, that she will be but too happy to obey. Farewell."

Within a year after this event, the old coal-carrier was comfortably situated in a cottage near A—hall, and tasted happiness which he had long ceased to hope for in life. We shall say no more, for from this the reader may guess the happiness that fell to the share of the other personages of our story.

#### A FEW WEEKS ON THE CONTINENT. BRUSSELS.

The railway from Malines, by which nearly all travellers now arrive in Brussels, terminates at the outskirts of the lower part of the town, on a level plain, through which, from north to south, flows the river Senne. On a small island formed by the Senne, a chapel and a few houses were built about the year 600, and thus was commenced a town which spread to both sides of the river, and, gradually ascending the face of a sloping hill, was surrounded with walls, and named Bruxelles, or Brussels—a term said to be equivalent to Bridgetown in the old Flemish tongue.

In the present day Brussels is found to have stretched all over the face of the rising ground to its broad summit, where now the finer part of the town is situated. The hill, which fronts the south and south-west, is of that easy inclination which permits streets to be built upon it in regular order, and, though inconveniently steep in some places for the passage of wheeled carriages or horses, it is nowhere unsuitable for walking. The lower and upper town, as they are called, differ in many respects from each other. The Markets, the Theatre, the Exchange, the Post-office, and the Hotel de Ville, also some splendid old family mansions, fashionable in their day, and a large infusion of mean thoroughfares, occupy the lower division. The upper consists almost exclusively of the elegant mansions of the gentry, the finest kind of hotels, the palaces, Senate-house, and other structures of a superior description; also the Park. Along the western Boulevards, an exterior road leading down to the lower town, there are likewise many mansions of modern date, the residences of persons of the higher classes. Brussels is not a brick town. All the houses are built of stone. In the upper part of the city, every edifice is painted white (in oil), and this, with the equally white jealousies of the windows, imparts a strikingly brilliant appearance to the streets, particularly in the sunshine of summer. Some of the descending streets of the best order are likewise painted; but the farther down you proceed, the darker and more ancient is the aspect of the houses. Another peculiarity is observable. The names of the streets, and the words on the signboards in the higher town, are in French, and in the lower they are in Flemish. In some cases they are both in French and Flemish in the lower, as if to suit two sets of people which the town contains—as, for example, "Oude Kirk Straat, Rue de l'Ancienne Eglise," which may be observed marked together on the corner of one of the streets.

It may be seen at a glance that Brussels is a remarkably fine town, and that, though not large, it is entitled to rank with Paris and other first-rate continen-

tal cities. It cannot certainly show any series of elegant streets like that of the New Town of Edinburgh, but, on the other hand, Edinburgh is deficient in such structures as the royal palaces of Brussels, and has nothing to compare with the Park. The Park of Brussels resembles the garden of the Thuilleries, but with lofty trees instead of shrubs. I do not know any city view more imposing and beautiful than that which we obtain from the Place Royale across to the entrance of the Park. The Place Royale is a large open square (no enclosure in the centre of it as in our English squares), surrounded with tall handsome edifices, with the church of St Jacques in the centre of its southern side; opposite this church the street Rue Montagne de la Cour, in which are the principal shops, leads down a mile in length to the lower town; and on the western side of the Place there is an opening which leads to, and exposes to view, the grand entrance to the Park, and the long terrace-like street called the Rue Royale, which bounds the Park on its southern side. The appearance of every thing at this part of the upper town is on a scale of princely magnificence. The Park, to which a stranger usually proceeds on his first excursion through the town, is planted with rows of trees at its sides, and also radiating from a centre, where there is a pond in which golden fish are confined for the amusement of the promenaders. Thick shrubberies, light coppices, two deep dells, and patches of green-sward, variously disposed between the divisions, give variety to the scene, while at different points are disposed marble statues, busts, and vases, in the style of the Thuilleries' gardens. The Park formed the chief battle-ground on which the revolutionary struggle took place between the Dutch troops and the people in 1830. Marks of this deadly conflict are still discernible on the trees, many of which having been dreadfully shattered with the cannon shot, have their wounds plastered with sheets of lead, or are otherwise repaired. The Park, as we observed, is the chief place of promenade on Sundays. On this day, which, as formerly mentioned, is one of perfect recreation in Brussels, a military band takes its station in one of the clumps of wood near a central plot, where there are numerous seats dispersed around for the visitors. All classes move hither in crowds on these occasions; and from the immense concourse which is seen moving in all directions, a good idea may be had of the luxury and fashion of the Belgian metropolis.

The Park is environed with a number of the principal state buildings. At the western extremity is situated the Senate House, and opposite it, on the east, close by the Place Royale, is the palace of the king. At the north-east corner, adjacent to the king's palace, stands the palace of the Prince of Orange. The king's palace, now inhabited by Leopold, is a handsome Grecian structure of large extent, no way secluded from the street, and is said not to contain any thing of particular interest to strangers. The love of sight-seeing is concentrated on the palace of the Prince of Orange. Here we found a crowd waiting for admission, and, taking our place, we were allowed to enter as soon as a previous set of visitors had been dismissed. The edifice, which measures 230 feet in length, was planned by the Dutch architect Vanderstraten, and finished by William, king of the Netherlands, only about a year before the revolution which displaced his dynasty in 1830. Exteriorly, it consists of a rustic basement, surmounted by Ionic pilasters extending along its two stories, and is tasteful in its appearance. The interior is disposed so as to render the ground-floor of no avail except for mean purposes; the whole strength of the design is thrown into the series of apartments on the first floor, which we reach by an exceedingly grand staircase of marble. Having arrived at the upper lobby, the crowd of visitors are told to halt until each person has his or her feet invested in a pair of soft woollen slippers over the shoes, in order to save the floors from being injured. All being properly accoutred, we are bid to enter the first apartment in the suite. The first thing remarked on entrance, is the smooth polished floor, along which we glide or skate, rather than walk, the surface being to all appearance as slippery as a sheet of ice. The floor of each room is of a similar kind, and consists of small pieces of rosewood, oak, and other very fine woods, set in stars and patterns of divers shapes, like mosaic. These floors alone must have cost some thousands of pounds. The suite of apartments consist of the usual court-like waiting, reception, throne, dining, and ball rooms. They are diversified in appearance by the colours of their walls. One is decorated with hangings of green silk, another is crimson, a third blue, and a fourth crimson velvet with gold fringes. The curtains of the windows are of a similar silk fabric with these gorgeous hangings, or coverings of the walls. The ball-room or grand saloon is a spacious apartment, surrounded with walls of a light yellowish-coloured marble, and enriched with twelve or-molu stands for candles, of twelve feet in height, each of which, it was mentioned to us, was worth L.600. From this apartment we were led to the vestibule where we had entered, there divested of our clumsy foot trappings, and conducted to the door. Here, on passing out, each paid his fee; altogether for our party of four, six francs were exacted; and I should suppose that the person who acts as showman must clear something like L.1000 a-year for his trouble. At present, the house is under national sequestration.

Brussels contains a number of public buildings, a picture museum, and an institution for exhibiting

philosophical and other instruments, all of which, with one or two private palaces, form objects for the visits of strangers. As descriptions of such places, however, usually have little interest, I offer only the following sketches of what came under our notice.

In proceeding down the Rue Montagne de la Cour, the eye catches a tall Gothic spire rising in prominent relief from the centre of the older portion of the town beneath. This is the tower of the Hotel de Ville, an edifice which stands on the south side of an open market-place, near the foot of the street. This square is surrounded with exceedingly picturesque buildings, in the Spanish style, harmonising well with the magnificent structure of the Hotel de Ville, which they environ. This large pile of building is several stories in height, and of great length, with a vast number of windows in front, and also in the tall narrow roof. The tower springs from nearly the centre of the front, and, rising to a height of 364 feet, is probably the finest specimen of the Lombardo-Gothic in the world. It is light, elegant, and pointed with a gilt copper figure of St Michael standing on the apex, as a vane. The house is quadrangular, with a square in the centre, and is now used for municipal purposes, including those of the police. It was erected in the year 1441. In the grand saloon, on the first floor from the street, Charles V. held his court while in Brussels, and here, on the 25th of October 1555, did he abdicate his sovereignty in favour of his son, Philip II., through whose cruelty the northern Netherlands were lost to the Spanish crown.

The cathedral of Brussels, or church of St Gudule, is another fine old Gothic structure meriting the admiration of visitors. It stands in one of the old sloping streets, with an open space around, and its spires, though not tall, are seen at a great distance. It was erected in 1275, but, having been partially destroyed by a mob of violent reformers in 1579, much of it is of a more modern date. The appearance is nevertheless old and dingy, and at present considerable repairs are in the course of being made on the exterior ornamental stones. The interior is remarkable for figures of saints in stone on the rows of pillars in the nave, and a pulpit of carved wood-work. The figure of each saint, which is ten feet in height, and elevated twenty-five feet from the floor, is sculptured with surprising skill: the whole are by Flemish and French artists. The pulpit, which stands on the open floor between two of the pillars, is a most elaborate work of art, emblematic of the Fall of Man. Adam and Eve are represented the size of life, sustaining the globe; an angel is driving them from Paradise, and Death is pursuing them. The figure and countenance of Adam (carved in dark yellow wood) are exceedingly expressive and striking. The concavity of the globe forms the pulpit, which rests upon the tree of Good and Evil, laden with fruit, and decorated with birds, some of which, by the way, it would be difficult to find in any work of ornithology. The tree is represented as growing up the back of the pulpit, with its branches and two angels supporting the canopy overhead. This beautiful work of art was executed by Verbruggen of Antwerp, in 1699, and was presented to the cathedral of Brussels by Maria Theresa a few years later. The church contains several splendid objects in the side chapels, besides some monuments of distinguished personages connected with the history of the Netherlands. The grand altar is a gorgeous structure of white marble, erected in 1743, from a bequest of 18,000 florins made by a pious and wealthy widow in the town. Latterly, the windows have been filled with modern coloured glass, representing scriptural scenes; they are spoken of as being well executed, but they seemed to us extravagantly full of blue, and are inferior in taste and tone to the old painted windows of Gouda.

Brussels possesses an object of art which the people have almost deified, and which they look upon as a sort of palladium of their city. This is a small figure of a man, or rather of a boy, in bronze, which is drolly placed over a fountain at the corner of a street in the lower town, and is known by the name of the "Mannekin." The history of the little fellow is quite farcical. The figure, which was originally of stone, is said to have existed in the seventh century. It was, however, by some means broken, and replaced by a figure in iron, and this again was succeeded by the present one in bronze. It seems to have been a mighty object of desire with the enemies of Brussels to steal the Mannekin, and he, accordingly, was frequently carried off; but to keep him was impossible—he was always recaptured and brought back. It being the practice to decorate him on fête days, the Emperor Charles V. gave him a complete suit, and settled a pension on him. Peter the Great of Russia came to see him, and, bowing before him, said, "Sir, I have come to see you, since you go to see no one," and added to his pension. Duke Maximilian, in 1698, gave him not only fine clothes, but invested him with his order. Louis XV., to protect him, as he said, from the violence of his soldiery, though actually to please the citizens of Brussels, gave him a full uniform, and solemnly decorated him with the order of St Louis. It is a positive fact, that, in addition to these gifts from sovereigns, several people have made the little man votive gifts, while others have actually remembered him in their wills. Within the last twenty years, a lady left him an annuity of 120 francs. He has a regular valet-de-chambre, who is paid 400 francs a-year for dressing him on fête days; and a treasurer

who is responsible for his disbursements and revenues. And all this for a piece of inanimate metal! Vive la bagatelle!

In respect to manufactures, Brussels is no longer a seat of the tapestry or carpet trade, for which it was once eminent. In the present day it produces a number of miscellaneous articles, particularly lace, which no other place can match. We went to see the principal lace manufactory. It is situated in a house in one of the descending streets near the cathedral, and belongs to Messrs Duquetiaux and Sons. The establishment consists of a number of young women, who are busily engaged in making lace sprigs and edgings, while others are employed in working them on net, for veils, flounces, tippets, &c. The females kept at this minute kind of work are poorly paid, notwithstanding the excessively high prices of the lace; and a suggestion from the attendant, that our dropping a trifle into the box for donations from visitors would be a deed of kindness to the inmates, met with our prompt attention.

The business of printing and publishing has for some time formed one of the chief trades in Brussels. The works produced are nearly all in the French language, and many of them are reprints of Parisian editions. A number of English works are also reprinted in a cheap and convenient form.\* The existence of Belgium so near France is most detrimental to the business of publication in Paris. The language of the two countries being, as far as literature is concerned, the same, no sooner is a new work of any merit issued from the press in Paris by a French author, than it is reprinted at Brussels, and that in a perfectly legal manner. The French have long complained of this species of legalised piracy, but without avail; the Belgians alleging, in vindication of their conduct, that their works are equally copied in France; and, moreover, that the French speak of invasion of copyright with a bad grace, seeing that they habitually reprint the works of English authors. However this state of things may be finally settled, in the meanwhile a great trade is carried on at Brussels in publishing works of foreign and native origin. I went with my friend and companion of my journey, Mr Orr, to see one of the largest of the book manufactories, which belongs to a company of individuals, among whom are numbered some of the functionaries of the present government, and was kindly shown to us by the practical manager of the concern. In this, as in other establishments, all the operations necessary for the mechanical preparation of books are conducted together—printing, binding, and selling. By this aggregation of departments of trade, by the lowness of wages, and the cheapness of paper, the company of which I speak can manufacture books at a rate cheaper than can be done in Britain, but I feel assured not lower than we could produce them for, were the duty of 1½d. per lb. entirely removed from our paper, because our machinery is much superior to that of Brussels, and this alone would compensate for a higher rate of workmen's wages. The large publishing establishments of Brussels manufacture books for exportation to a prodigious extent. They send their wares to all the principal towns in Germany, Russia, Italy, Greece, and other quarters, thus carrying on a kind of trade of which we in England are comparatively ignorant, and are shut out from, in consequence of the local character of our language, and our infinitely dearer mode of manufacturing. It is exceedingly apparent to the stranger on the continent, that the simple mode of "getting up" books with a mediocre kind of printing and thin paper covers, has a powerful effect in multiplying and disseminating literary productions. In Brussels especially, the book shops are very numerous, and many persons of a humble order may be seen with a volume or a paper in their hands. In walking through the streets on Sunday, I had occasion to observe that a number of young women, who were left in charge of the shops, were sitting behind the counter diligently perusing a book. The activity displayed in reproducing French literature is in nothing more conspicuous than the announcement which took place, during my stay, of an edition of a certain Parisian newspaper, which was to be issued within an hour after the arrival of the paper from Paris.

Brussels possesses a botanical garden, supported by a company of shareholders, which is of great extent and beauty, and forms a delightful promenade on the days on which it is open to visitors. It is situated on an irregular piece of ground on the western Boulevards, at a place greatly improved by the removal of the old walls. In the same quarter, in the midst of a pleasant garden, is placed the royal observatory, an institution over which I had the pleasure of being conducted by the accomplished M. Quetelet, chief astronomer. The observatory contains a number of instruments of great value, but, as may be supposed, of foreign manufacture.

In the environs of the town near the western Boulevards, there is an establishment of a very remarkable kind, connected with literature and the arts, exceedingly worthy of notice. I allude to the "Etablissement

Geographique de Bruxelles," or "Geographical Establishment of Brussels," which was founded in 1830 by its present proprietor, Mr Philippe Vandermaelen. This gentleman, who is a native of Belgium, is a person of great ingenuity, perseverance, and practical benevolence. Professionally, he conducts at his establishment the largest business of designing, engraving, and lithographic printing, in the kingdom, also letter-press printing. The principal department is, I believe, that of lithography, in which maps, charts, and pictorial embellishments, are produced to an inconceivable extent. Globes are likewise made of a large size, some being as large as upwards of two metres fifty cents, or about seven feet, in circumference. In the preparation of all these works of art, Mr M. Vandermaelen, brother of the founder, unites his exertions and superintendence. So much for the mere business part of the concern. The object of the proprietor not being to accumulate a fortune, but to do good in the meanwhile with the means in his hands, he has associated with his undertaking an educational and generally instructive institution. Proceeding through the main front edifice of the establishment, we see before us a fine large botanical garden, and on each side saloons for a library, museum of natural history, geology, and animal physiology, also for the delivery of courses of lectures on various branches of science. All the instruction communicated in those departments of human knowledge is gratuitous. A great number of young persons, from the age of fourteen to eighteen, are admitted to receive instruction under masters, and no reward whatsoever is sought by the proprietor of the institution, further than the approbation of his own benevolent mind, and the consciousness of elevating young men of ability from a humble to a higher sphere, in which they are calculated to shine. The library of the institution has been collected in a manner so peculiar, that it deserves to be noticed. Visitors who happen to have any books which they can spare, are asked to exchange them for some other works, the produce of the establishment, and by this means books of all the civilised nations in Europe have been collected to an immense extent. By this and other modes of acquisition, the library is now very large, and is open to all who may choose to make use of it. Every thing considered, the establishment of Mr Vandermaelen is one of the most interesting institutions in Brussels, and affords a striking proof of how much good may often be done by one enterprising and well-regulated mind.

#### THE DEANSTON COTTON-WORKS.

The large cotton-spinning establishments in connection with the trade of Glasgow, are not all situated in that city or its environs; many are placed in localities favourable for their water-power at a considerable distance in the country, as, for example, at Catrine, in Ayrshire; New Lanark, on the Clyde, near the celebrated falls; and at Deanston, in the southern part of Perthshire. From a paper just published in the *Inverness Courier*, written we should suppose by the editor of that northern print, we are enabled to present the following abridged account of the cotton-factory at Deanston, the facts of which must be new to many of our readers. Deanston, it may be premised, stands in the beautiful vale of the Teith, on the banks of the river of that name, near the village and ancient castle of Doune, and about eight miles north-west from Stirling, on the way towards the Trossachs and Loch Katrine.

Deanston Cotton-Works employ above eleven hundred persons, young and old, and contain the most perfect machinery in the kingdom. The first erection took place in the year 1785, by the Messrs Buchanan of Carston, four brothers, the eldest of whom was an intimate acquaintance of Sir Richard Arkwright, and was his first agent in Glasgow for the sale of cotton twist. The English had annoyed Sir Richard so much by invading his invention, that he resolved to instruct young Scotsmen in the art, in preference to his own countrymen; and among others, Mr Archibald Buchanan (now manager of the Catrine works, Ayrshire) went apprentice to Sir Richard, and was the only one who had the privilege of living in the house with him. Sir Richard was an old bachelor, and was so intent on his schemes and calculations, that young Buchanan and he often sat for weeks together, on opposite sides of the fire, without exchanging a syllable. The old man, however, was in his other moods extremely kind and familiar, and recollected his pupil in after life.

The powerful fall and supply of water in the Teith having suggested to the elder of the Buchanans the idea of placing a cotton-spinning establishment at this spot, where it now stands, the scheme was soon ripened into action. There was a lint mill with a dam upon the property, and the owner disposed of the mill to him, and gave him a few acres along the margin of the stream. Carding and roving for jenny-spinning were then the only processes which were driven by power (as it is termed), and for this purpose the old lint mill was appropriated, a building being erected close by for the reception of the jennies. At first, the Highlanders were shy of entering this tower of Babel, with its unknown sounds and sights: they considered it a sort of prison. From the respectable manner in which the works were conducted, they were gradually reconciled to the employment, and were quite willing that both themselves and children should be engaged. Archibald Buchanan was then a fine athletic young man of eighteen or nineteen, of a social generous dis-

position; he mingled with the people; and thus a number of active young men of the district, of the better classes, were led to work at Deanston; and so expert did they become, that as fine yarn was then spun at Deanston as has subsequently been made by the best spinners in Manchester. Some of these young men afterwards made fortunes in business, and the firm of the Macphails in Glasgow (extensive spinners and power weavers) had its origin in one of the family repairing from Ross-shire to work at Deanston.

In the year 1793, the works at Deanston passed into the hands of a Yorkshire Quaker, a benevolent old gentleman named Flounders; and in 1808 they became the property of James Finlay and Co. from Glasgow, with whom Mr Archibald Buchanan had become connected. The establishment was at this time remodelled under the charge of the present manager, Mr Smith (a nephew of Mr Buchanan), who is well known for his mechanical as well as his agricultural inventions and improvements. In 1822, the company made arrangements with the neighbouring proprietors for additional water-power, by which they acquired a fall of 20 feet, making the whole fall 33 feet.

An extensive plan of enlargement and improvement was now adopted; the works were thriving, and machinery was daily becoming more and more perfect. In this plan, it was proposed to erect eight water wheels in one square building, each to be 36 feet in diameter, and 11 feet wide inside, being overshot, and having the shrouding and buckets 24 inches deep. At present four of those wheels are in operation, and pedestals have been erected for two more. They are the most gigantic-looking things we ever saw, and distribute, by innumerable shafts, the whole of the vast concentrated power over the different apartments. Each wheel has a power equal to eighty horses!

The whole of the works are lighted with gas, and they possessed this advantage so early as 1813, before any of our towns could boast the same brilliant light. Tunnels are made all under ground, by which communication can be had with the different departments without going out of doors, and every other facility has been adopted for carrying on the operations. Carts proceed daily to Glasgow with the produce. The construction of the various works must have cost an enormous outlay of money, and a considerable charge annually will be brought against it in the shape of interest; but we were informed that the power being once acquired, the annual expenditure for management and repairs is small indeed—not exceeding, on the average, £400 per annum. The steadiness of the stream of the Teith, which flows from Loch Katrine and five of her lakes, renders the command of water extremely uniform, and the loss of a few hours' work per day for a week or fortnight in the driest period of summer, is all the stoppage the works ever experience.

The process of manufacture may be described as follows:—The bags of cotton, containing each about 300 pounds weight, are laid upon the floor in rows, taken out and thrown into a machine called a *Willow*. This willow is a revolving cylinder with iron teeth, which divides and breaks down the masses. The material is then conveyed to another machine, which used to be called the *Devil*. Burns, in his admirable Address to the Deil, expresses a hope that he would take a thought and mend, in consequence of which he might still have a chance! The cotton-spinners' devil has experienced this agreeable reverse of fortune; for, since it has been improved and remodelled, it goes by the name of the *Angel*. The cotton is then weighed in small portions, spread out, and put into a machine which determines and regulates the girth of the thread. Passing through pairs of rollers, the cotton is struck by iron beaters (as in a thrashing-mill) at the rate of six thousand feet per minute! The lighter dust is drawn through a revolving wire sieve by the action of a fanner, and is thus blown to the open air, ridding all the processes of that annoyance which used to be so hurtful to health. The cotton is now in the form of a web—is next wound on rollers—and put to the carding-machines, whereby the fibres of the cotton are completely separated, and any remaining lumps or refuse are taken out.

The machines used here are of a peculiar construction, in which a process formerly done by hand is now performed by mechanism, and for which Mr Smith holds a patent. By the variously improved construction of this machine, the saving of labour in this process will amount to about thirty per cent. Some peculiar and beautiful movements are introduced, but it is impossible to describe them. The next process to which the material passes, is the drawing machine, wherein the fibres are drawn into a parallel and longitudinal position, by means of successive pairs of rollers, the first pair holding the material, and allowing it to pass with a slow progress, whilst the second pair lay hold of it and pull it in the same way as a man draws straw for thatching. When the fibres have been sufficiently brought to parallel (which is done by repeating this process three or four times in the same machine), the material is carried to what is called a *roving frame*, where it is drawn to a much smaller girth, and then twisted into a thready form, and is wound upon bobbins. These bobbins are carried to spinning machines, when the girth is still more reduced, until the thread reaches its desired size, when it is twisted sufficiently firm to become thread fit for weaving. The thread intended for warp is spun upon a machine

\* In the Rue Montagne de la Cour I found a bookshop kept by a Mr Todd, a Scotchman, from Edinburgh, and a most respectable person in his line. The number of English in Brussels is sufficient to support an extensive circulating library of British publications under Mr Todd's charge. In this place I observed for sale, Brussels editions of English works, at about a tenth of the cost of the original London editions.



called a *throstle*, which is a modification of Sir Richard Arkwright's original machine, and at this work a recent American invention has been adopted; it admits of great velocity in the twisting process, and, consequently, produces a much greater quantity of work in the same time. The bobbins, by the movements of which the twist is thrown into thread, go at the amazing velocity of 8000 revolutions per minute! The effect is magical. These machines are attended by children, chiefly little girls, who are singularly dexterous, and they are superintended in divisions by grown-up women—one male superintendant having the general charge of a department. The work is light and easy, but requires constant attention, and great cleanliness and order, and thus it may be said to form an excellent school for training the young to habits of attention and industry. These little girls follow the employment with spirit and cheerfulness, from eight to twelve hours a-day. The yarn intended for woof or weft is upon the *mule jenny*, a machine invented by a Mr Crompton, near Bolton, Lancashire. It is an adaptation of the twisting process of the old jenny, or mickle wheel of this country, to the drawing process of Sir Richard Arkwright. Hitherto such machines have generally been worked by men of great strength and skill, who acquired high wages, and were the chief movers in all the combinations of the cotton trade. To obviate the inconvenience of these strikes, the attention of mechanical men has been for many years directed. The machines employed here were invented by Mr Smith some years ago, for which he holds patents for the United Kingdom, most of the countries on the continent of Europe, and for America. The machine is now being extensively introduced in the trade generally. Mr Smith has just completed an adaptation of this principle to *mules* for spinning wool, and which is likely to be of vast importance in the present rising state of the woollen manufactures of our country.

The invention of this machine removes the only laborious and slavish employment that remained in the cotton manufacture, and effects a saving of about 50 per cent., besides producing an article of superior quality, and insuring regularity. It has created a demand for young females' labour, who are better paid than when they worked under the spinners—the money being thus more equally distributed. It gives, besides, to this country an important advantage over the cheap labour of other countries.

In preparing the warp for the weaving process, from 500 to 1000 bobbins are arranged in regular rows in a wooden frame, and from these the threads proceed towards a beam, or roller, on which they are wound, having a peculiarly beautiful appearance, the threads converging towards the mass, like the rays of the sun from behind a cloud. Being collected, the threads are passed through a machine whereby the threads are stiffened, by being immersed in a paste formed of flour and glue boiled together with water. Brushes attached to mechanism sweep along the surfaces of threads, laying all the fibres, and rendering them smooth and uniform. Fanners are put in rapid motion, and blow heated air upon the mass of threads, so as to render it perfectly dry before being placed on the weavers' beam. From this it is carried to the power-loom, where the whole operations are performed by mechanism; the young women, who attend two looms each, having merely to supply the woof from time to time, and mend such threads of the warp as may break in the process. The woof is supplied in little firms or cops, formed on the self-acting mules; each loom will, on cloth of ordinary thickness, such as a common calico, produce about thirty yards per day, making 60 the work of each girl. These looms, to the number of about 300, are arranged in rows, with alleys between; in a most spacious apartment, which, when lighted with gas, has a most magnificent effect.

In going over the vast establishment, it seemed to us like entering an illuminated village, and we shall not soon forget the effect of 300 gas-lights in one apartment. This building is quite novel in its structure, the roof being composed of groined arches, supported on cast-iron columns, 12 feet high, and the rise of the arches being 6 feet; the greatest height of the ceiling is 18 feet. The groins are in squares of 33 feet 6 inches, and in the centre of each groin there is a circular opening 8 feet in diameter, surmounted by a handsome glass cupola light, affording a most uniform and perfect light for the operations carried on below. The arches are rendered water-tight in the most simple manner by a coating of pitched coal tar, about a quarter of an inch in thickness, and the whole is covered with three or four feet of soil, intended to form a garden for flowers and other plants. It is remarkable, that, during the intense frost of the winter 1837-8, the hardening did not penetrate more than one and a half inches into this soil—owing, doubtless, to the heat from below. This building covers altogether upwards of half an acre, and every individual in the apartment can be seen from any point. The whole is fire-proof. The general order of management at the Deanston works is very much on the principle of Arkwright—a proof of the talents of that eminent person. There is a head or superintendant to each department—every one has his own allotted part—and in most cases they are paid by the piece, not in weekly wages. They receive the amount of their earnings every Thursday morning (that being the market day); and the youngest individual about the works is paid his or her wages into their own

hand, which seems to give them an idea of personal consequence. They have all the privilege of leaving any moment they choose, without previous warning; and we were informed that this is found to insure a more steady, agreeable, and lengthened service than could be obtained by the firmest indenture. There is no fine or punishment, excepting for damage to the works through evident carelessness. The order of the establishment is preserved by the dismissal of offending individuals, or their banishment for a limited period. By "stopping the supplies," every member of the family is interested in the good conduct of the whole, and a banished child, man, or friend, finds no rest at home. The morals of the people are in general very correct; no drunkard is permitted about the establishment. We inquired of an intelligent medical gentleman at Doune (Dr McAnsh) whether the spinners were as healthy as the other villagers. His answer was, "They are not so robust (owing to their confinement), but their health is as steady and uniform."

Immediately adjoining the works is a handsome little village, built and founded by the company, which contains about 1200 inhabitants. The houses are neat, built in one long street parallel to the water course, and are two stories high, with attics. They are most exemplary patterns of cleanliness, and to each house is attached a small piece of garden ground, and a range of grass plot for bleaching. A school-room is united to the establishment, capable of containing 200 children, and a teacher is paid by the company. The young children generally go to school when about five years of age; and as none are admitted into the works until they are nine, they are mostly good readers, and able to write and cipher before they enter the works. The children employed in the works from nine to thirteen years of age, must, according to the Factory Act, work only eight hours per day, and about three hours are devoted to the school-room. The number at this age amounts to 100, and they are divided into relays of 33 each; so that while two relays are at work, one is attending school. The youth above thirteen years of age and under sixteen are expected to attend an evening school four nights in the week; and a Sabbath school in the village contains about 150 pupils. Thus the works at Deanston seem to possess every facility and recommendation; they have changed the aspect of the country—beautiful and romantic as it is—by introducing into it habits of industry, order, and the highest mechanical genius and dexterity; they cause a circulation of money to the extent of about £20,000 per annum; they furnish employment for the people of all ages; they have called forth the spirit and activity of the agriculturists to meet the ever-recurring demands of the place; and in all respects they are a splendid monument of British enterprise, skill, and perseverance.

#### MRS JAMESON ON FEMALE EDUCATION.

IN Mrs Jameson's "Winter Studies and Summer Rambles in Canada," the following emphatic observations are made on the subject of female education:—

"In women, as now educated, there is a strength of local habits and attachments, a want of cheerful self-dependence, a cherished physical delicacy, a weakness of temperament—deemed, and falsely deemed, in deference to the pride of man, essential to feminine grace and refinement—altogether unfitting them for a life which were otherwise delightful: the active out-of-door life in which she must share and sympathise, and the in-door occupations which in England are considered servile; for a woman who cannot perform for herself and others all household offices, has no business here [Canada]. But when I hear some men declare that they cannot endure to see women eat, and others speak of brilliant health and strength in young girls as being rude and vulgar, with various notions of the same kind too grossly absurd and perverted even for ridicule, I cannot wonder at any nonsensical affectations I meet with in my own sex, nor do otherwise than pity the mistakes and deficiencies of those who are brought up sagely with the one end and aim—to get married. As you always used to say, 'Let there be a demand for a better article, and a better article will be supplied.'"

A woman blessed with good health, a cheerful spirit, larger sympathies, larger capabilities of reflection and action, some knowledge of herself, her own nature, and the common lot of humanity, with a plain understanding, which has been allowed to throw itself out unwarping by sickly fancies and prejudices—such a woman would be as happy in Canada as any where in the world. A weak, frivolous, half-educated, or ill-educated woman may be as miserable in the heart of London as in the heart of the forest; but there her deficiencies are not so injurious, and are supplied to herself and others by the circumstances and advantages around her.

I have heard (and seen) it laid down as a principle, that the purpose—one purpose at least—of education is to fit us for the circumstances in which we are likely to be placed. I deny it absolutely. Even if it could be exactly known (which it cannot) what those circumstances may be, I should still deny it. Education has a far higher object. I remember to have heard of some Russian prince (was it not Potemkin?) who, when he travelled, was preceded by a gardener, who around his marquee scattered an artificial soil, and stuck into it shrubs and bouquets of flowers, which, while assiduously watered, looked pretty for twenty-four hours perhaps, then withered or were plucked up. What shallow barbarism to take pleasure in such a mockery of a garden! Better the wilderness, better the waste! that forest, that rock yonder, with creeping weeds around it! An education that is to fit us for circumstances, seems to me

like that Russian garden. No; the true purpose of education is to cherish and unfold the seed of immortality already sown within us; to develop, to their fullest extent, the capacities of every kind with which the God who made us has endowed us."

#### THE FROZEN PROPHET OF SEVILLAN.

MR MORIER, in his volume of travels entitled "A Second Journey through Persia," &c. mentions, although somewhat sceptically, a circumstance which has since been authenticated as a fact by a British officer. The distinguished plenipotentiary says: "The mountain of Sevilan is held in high veneration by the Persians, who relate that in one of the snowy chasms at its summit is to be seen the dead body of a man, always frozen, but in the highest state of preservation (with the exception of one tooth and a part of the beard), and which they believe to have belonged to a *peyghamber*, or prophet, whose name the mountain retains to this day. Although this story is in every one's mouth, and confirmed with assurances that many have seen the body, yet we never met with any one person who had himself seen it. We rather lowered what in their estimation is a miracle, by informing them that bodies of any description will preserve entire as long as they remain frozen, and that they had only to seek the frozen market at Petersburg to convince themselves of the fact." The statement of animal bodies being preserved from decay if enshrined in ice, is a well-ascertained truth. The body of a mammoth or fossil elephant was found entire in an iceberg in Siberia about the beginning of this century. As the animal belongs to a race now long extinct, it had certainly remained there many thousand years, how many it would be vain to conjecture. No better proof, therefore, can be afforded of the antiseptic properties of ice; and so far we were prepared to credit the truth of what the Persians asserted regarding their deceased prophet. But all doubt upon the subject has been removed by Captain Shee of the Madras infantry, who, in a letter to Colonel Monteith, thus describes his visit to the tomb:—

"After a ride of eighteen miles, we reached a camp of Illiauts, and had not been long seated before we perceived a party descending, which proved to be the Mulla Bashi of Tehran and Ali Khan, who had been sent by order of the king. They told us it was not worth our while to ascend, as there was nothing to see, and the difficulties were very great. From their fresh appearance we much doubted their having reached the summit, and determined on the following day at least to endeavour to accomplish our object. Two hours before daylight we mounted our horses, with two guides, and rode for six miles, when we were obliged to leave them, and proceed on foot. The mountain did not appear very difficult, but we soon found our mistake. After surmounting four distinct ranges, every one of which led us on, in hopes of being the last, we reached the summit by the east-south-east side at eleven A.M., having been walking five hours; our guide, an old man of seventy years of age, being the first. On the top of the mountain we found a tomb, consisting of stones, neatly put together, and covered, except at one end, where a few stones had been removed to look at the body. In it we found the skeleton of a man lying with his head and body inclining to the right side (turning towards Mecca): the front half of the skull, the left collar-bone, the left arm, from the shoulder to the elbow, with four ribs on the left side, were alone visible: some dried flesh and pieces of the winding-sheet were still adhering to the skeleton. The remainder of the body was buried in ice and earth. The skull was perfect, except some of the front teeth, which were lying about the tomb; twenty teeth are still in their places, perfectly even, and beautifully white. There appears no doubt that before the stones were removed, the body was perfect, and that the remainder, which is buried in the ice, is still so. Having satisfied our curiosity, we proceeded to see an extraordinary stone, out of which (the Persians say) oil is distilled, and at a hole in the top a diamond is seen. After crossing about a mile of snow and ice on the summit of the mountain, we came to an amphitheatre of about 600 yards in circumference, containing a pond of the purest water; the sides were covered with snow, and long pendant icicles gave the whole a beautiful appearance. To the right of the pool, a little higher up, was a cleared spot with a wall about three feet high, enclosing a stone of three feet in height by four in length, over which a quantity of oil appeared to have been poured; in its centre was a hole, which had the appearance of being used as a lamp, and in it a piece of lead to hold a wick, which the Persians had called a diamond. Numbers of offerings were placed round it. Near it was another stone, with some rude letters cut on it. From the appearance of the place, I concluded that at some periods of the year the Illiauts frequent this spot, and perform some religious ceremonies, making the stone the lamp. It took us three hours and a half to reach the place where we left our horses. We returned to the camp we had before left, perfectly persuaded that the Mulla Bashi had never ascended the mountain. Water boiled at 188 degrees of Fahrenheit; the temperature in the tomb was exactly the freezing point."

We have quoted the passage entire, both because it is interesting in itself, and because it proves that the mountain of Sevilan is, or has been, a scene consecrated to religious rites. The temperature at which water boils indicates an altitude of nearly 13,000 feet above

the level of the ocean. It is situated in about latitude 38 degrees 12 minutes, rather more than a degree east from the shores of the Caspian Sea, in the province of Azerdijan. It is much higher than any other elevation in this territory, with the exception of the celebrated Mount Ararat. Sevilian appears to have been a volcano, there being many indications of the fact, although the remains of any crater are no longer visible. There are four distinct peaks or pinnacles which closely resemble each other, and may, at a distance, be mistaken one for another. All around its base are warm springs, but none of them with a heat above 104 degrees, which is far below the temperature of many other thermal fountains. With regard to the individual whose remains have been deposited in this singular cemetery, our travellers are silent. He was, no doubt, one of those impostors, so numerous in countries where the Mohammedan religion prevails, who lay claim to the divine afflatus, and who seldom fail in securing a creditable body of supporters. Whether it was a desire of his own to be so interred, or whether it was an afterthought of his followers, we are not informed. The Illiuts here mentioned are wandering races of Persia, constituting, it is supposed, about one-fourth of the whole population of the country. They form almost a distinct class by the nature of their habits, which are migratory, and by their modes of gaining their livelihood. They are distributed into a number of distinct tribes, who keep entirely separate from one another, like the Highland clans of old.

#### REMARKABLE ANECDOTES OF DOGS.

THE anecdotes given of dogs saving the lives of persons in danger of drowning, are so numerous as to be familiar to every person. "One cannot reflect on the innumerable instances of the love and usefulness of this animal, without being grateful to Providence for having given to man a creature capable of many of those noble and disinterested feelings, which we are accustomed to appreciate so highly in our fellow-creatures, and almost to look upon as constituting the perfection of the human character." I beg leave to introduce to my readers an anecdote of a dog belonging to a friend of mine, but shall first, however, mention a story somewhat similar, related by an author of the greatest respectability, regarding a dog belonging to a religious house in France. "At a convent in France, twenty paupers were served with a dinner at a certain hour every day. A dog belonging to the convent did not fail to be present at this repale, to receive the odds and ends which were now and then thrown to him. The guests, however, were poor and hungry, and of course not very wasteful; so that their pensioner did little more than scent the feast of which he would fain have partaken. The portions were served by a person at the ringing of a bell, and delivered out by means of what, in religious houses, is called a *tour*; which is a machine like the section of a cask, that, by turning round upon a pivot, exhibits whatever is placed on the concave side, without discovering the person who moves it. One day, this dog, who had only received a few scraps, waited till the paupers were all gone, took the rope in his mouth, and rang the bell. His stratagem succeeded. He repeated it the next day with the same good fortune. At length the cook, finding that twenty-one portions were given out instead of twenty, was determined to discover the trick: in doing which he had no great difficulty; for, lying *perdu*, and noticing the paupers as they came for their different portions, and that there was no intruder except the dog, he began to suspect the truth; which he was confirmed in when he saw the animal wait with great deliberation till the visitors were all gone, and then pull the bell. The matter was related to the community; and, to reward him for his ingenuity, he was permitted to ring the bell every day for his dinner, on which a mess of broken victuals was always afterwards served out to him."

The following is the anecdote I refer to. A friend of mine, Captain W. Aug. Thomson, R.N., residing near Edinburgh, has a dog, both the parents of which were natives of Newfoundland. At the time I refer to (1836) he was, I believe, only two years old, but exhibited all the indications of great muscular power, and singular sagacity. He was considerably larger at that time than many full-grown animals of the same breed, and I always imagined his eye possessed a very peculiar degree of intelligence. One day my friend walked down to the sea-beach to observe the military, whose barracks are in his neighbourhood, performing their evolutions, and took the dog with him. All went on very well till the cavalry commenced firing, but such a sound was too much for the astonished Bounce, as the dog is called. Being quite a puppy, like many other puppies, he was not very willing to stand fire, and he therefore considered the best thing he could do was to sound a retreat. Accordingly, without casting a single glance toward his master, he bounded away homewards at full gallop, with his tail depressed, and in evident terror. His master's residence is about a mile from the beach, and it appeared the dog ran the whole way at full speed. But as the house is in a garden, and surrounded by a lofty wall, having a gate which is always shut, and which communicates with the house only by a bell, it became a problem to our canine reasoner, how to get within the walls so as to be in safety. The gate he could not open, the wall was too high to leap; how then could he enter? He perceived at once his predicament, and no doubt thought of the bell he had so often seen his master pull, and the sounds of which were so often followed by the opening of the gate. Crossing the road, he ran up to a labouring man who was passing, and with all the gentleness he could assume, seized him by the wrist and held him, at the same time wagging his tail, and endeavouring to direct the man's attention to his situation. The man was at first, naturally enough, much terrified; but the perfectly gentle appearance of the animal prevented his fears from increasing. He therefore

accompanied the dog across the road, and was led close up to the bell, which he at once perceived the animal required him to pull; this having done, he was no longer detained a prisoner, and the gate being opened, he related, in astonishment to the servant, the singular conduct of the dog. This little story is entitled to the highest credit, not only on account of the source I derived it from, but because I myself have seen the dog, when desirous of leaving the room, take his master by the wrist and lead him to the door in order to open it. All this I have been assured is solely the result of the dog's instinct, or rather, indeed, reason, as he never received any instruction. I trust that, although this anecdote has little direct reference to humanity in animals, I may be excused taking this opportunity of mentioning it.—*Fraser's Rights of Instinct.*

#### USE OF BIOGRAPHY.

THAT "what man has done man may do," is a most stimulating and encouraging truth. It is this consideration chiefly that renders the lives of individuals who have distinguished themselves in their day and generation so interesting to their fellow-creatures; and it is a remark which should be borne in mind, whether we are studying the actions of *great good men*, or of *clever bad men*. In the former case, we should inquire whether we are not possessed of the same qualities, powers, and opportunities (generally speaking), with which they were favoured; and in the latter, that we partake of the same depraved nature, and are liable to the same temptations that led them astray. It is not the history of other beings—of those above or below us in the scale of intelligence; it is neither of angels nor brutes, but of men like ourselves, that we read.

It is a common remark, that biography is one of the most useful studies to which we can apply; but we must remember that its usefulness to us entirely depends upon our right application of it. It is idle, indeed, to take up a book of any kind, merely with a view to entertainment: we hope our readers are all of them by this time above so childish a practice; but it is possible to read with a general desire to derive benefit, and yet without that close personal application of it to ourselves, which alone is likely to do us good. We would therefore recommend, especially to the reader of biography, to keep one grand object in view; and to make this close inquiry whenever such a volume is opened—In what respects is this applicable to me? How can I make it subservient to my own improvement? We will endeavour to offer some suggestions that may assist the reader in this inquiry.

Suppose that a young person in the quiet and humble walks of life should meet with the annals of some great warrior or statesman, he would probably say, "This is nothing to me, except as mere amusement; I have no ambition, at least I have no talents or opportunities, to distinguish myself in public life; I am quite contented with my humble lot; I seek not great things for myself." Herein, indeed, he would show his wisdom; and yet it might not be true that such a history was nothing to him. Whatever is in itself excellent, is worthy of our attention, and more or less of our imitation, however widely our circumstances may differ.

Great talents and splendid achievements are necessarily confined to a few; and as we may be virtuous and happy without them, this is not to be regretted: but it is the duty and interest of every individual to aim at excellence in his own sphere, however humble; and while it may be the farthest from our wishes or our duty to engage in public services, it may still be highly to our advantage to trace the steps, and to mark the progress, by which great men have arrived at eminence. Many of the very same qualities are requisite to make a good tradesman, or skilful mechanic, which are needed to form a great statesman or general.

We shall probably find that such a man was early distinguished from the frivolous or dissolute around him by devotedness to his object: that he made it his study, his pleasure; not merely engaging in it as a matter of course, or of necessity. We shall find that he was not discouraged by difficulties, but rather stimulated by them to more vigorous efforts; that he never consulted his own ease or gratification, when they stood in the way of his grand design; that he was characterised by a disregard to trifles of all sorts, and by a steady aim at the most important ends. Now, as these, among other good qualities, insured to him success and distinction, so we may be assured that the same causes will produce the same effects, in whatever situations they are applied. Thus far a little apprentice boy may learn of Peter the Great, and become, by and bye, as distinguished in his trade as the Czar was in his empire.—*June Taylor.*

#### ESCAPE FROM A TIGER.

Lieutenant F. Hughes, of the 7th L. C., was in the act of stooping to get a flower from the jungle, about 200 yards from the roadside, when he heard a rustling noise behind him: he immediately turned his head to see what it was, when he beheld a huge tiger within a few yards of him. In the fright and hurry of the moment, when endeavouring to rise, he trod on the skirts of his dressing-gown, and fell backwards. He was at the same moment seized by the brute, which caught him over the waistband of his trousers in its mouth. In this position the beast was dragging him, when he got his hand into his pocket, and drew a small double-barrelled pistol, which he placed as direct for the animal's mouth as the position in which he lay would admit, fired, and in an instant he was free; for the tiger made a tremendous spring forward, carrying with it the clothes which it had grasped.—*Asiatic Magazine.*

#### INSTANCE OF PRESENTIMENT.

When one of our squadrons was blockading either Brest or Toulon, the flag-captain had occasion to send for one of the warrant-officers, a veteran who had shown his undaunted face in some of our severest actions, to receive some directions on the quarter-deck. As the ship was

just standing off the shore, and nearly three miles from it, a shot was fired from one of the batteries. On seeing the flash, the old seaman clenched his hands, and exclaimed, "That's for me! I know it is for me!" The astonished captain had scarcely commenced his rebuke, when the poor fellow's trunk lay bleeding on the planks. The gun must have had an elevation of 12 degrees, or more, so that the chances of its touching any thing but the sea were enormous; and the person destroyed was the only one who even thought about an effect. [Without speculating as to whether "every bullet has its billet," and whether the Orientals are altogether wrong in their doctrine of Fate, it may be observed, that nearly every officer of long experience in the military service adduces some such instance as the one now related.]—*Newspaper paragraph.*

#### TRUTH.

The following admirable passages on the value of truth in literature occur in a late number of the *Athenæum*:—"To party writing *per se* we have no objection: in its place and season it has its uses; and when confined to its appropriate channel, should (critically as well as legally) be free to speak out manfully. But such writing is altogether foreign to the purposes of literature: Truth is of no party; and Literature, designed to 'polish manners, and raise man above a state of brutality,' cannot but suffer in its utility by the amalgamation of the two. The periodical criticism of our times has been graced by the contributions of the most gifted writers in the nation, and has recorded their opinions on many of the principal subjects at issue among men; and it is surely to be deplored that posterity should have its confidence in these productions shaken, by their juxtaposition with all sorts of one-sided views, party misstatements and revellings, and with judgments almost avowedly passed on men and on things with a sole reference to party effect. The right, the true, and the beautiful, belong to a higher and a purer atmosphere, and are not contingent upon the accidents of church and state arrangement. Is it not, then, a miserable defect impressed on our national intellect—an evil beyond adequate expression—if it should turn out that this fashion of party journalism has gone very far to incapacitate the masses for the reception (or the conception) of ubiquitous and eternal truths, and deformed their humanity by a sectarian and factions one-sidedness? That something of this kind has been engendered by the abuses of journalism, can scarcely be denied, and its practical influence on our institutions and habits is already making itself felt to a dangerous extent. England, more than any other country, stands in need of a series of high-toned journals, open to the reception of truth, and determined to follow it courageously wherever it may lead, in the full conviction that whatever is, in nature, must be right. Whether in the present state of mind such journals would prove profitable speculations, is another, and an important, question—a question not wholly to be disregarded with impunity. Truth, we fear, has no party to back it; and, in order to procure friends, must still, as of old, be offered in homœopathic doses."

#### ANECDOTE OF WASHINGTON.

A person of lawless habits and reckless character had frequently entered upon the grounds near Mount Vernon, and shot ducks and other game. More than once he had been warned to desist, and not to return. It was his custom to cross the Potomac in a canoe, and ascend the creeks to some obscure place, where he could be concealed from observation. One day, hearing the discharge of a musket, Washington mounted his horse, and rode in the direction of the sound. The intruder discovered his approach, and had just time to gain the canoe and push it from the shore, when Washington emerged from the bushes at a distance of a few yards. The man raised his gun, cocked it, pointed it at him, and took deliberate aim; but, without a moment's hesitation, he rode into the water, seized the prow of the canoe, drew it to land, disarmed his antagonist, and inflicted on him a chastisement which he never again chose to run the hazard of encountering.—*Sparks's Life of Washington.*

#### DEPTH OF WELLS NEAR LONDON.

Wells 700 feet deep have been dug at Harrow-on-the-Hill, and several in London are between 200 and 300 feet deep; at other places on rising grounds the thickness of the stratum is much greater. In digging a well at Wimbledon for Lord Spencer, the workmen were obliged to go 530 feet before they came to the sand and gravel containing water. At Primrose Hill, near the Regent's Park, some years ago, the ground was bored to the depth of 500 feet without success. One mile east of London, the clay is only 77 feet thick; at a well in St James's Street it is 235 feet, and at High Beach 700 feet thick. In the spring of 1834 a water company sank a well on the lower heath at Hampstead, below the ponds, which was dry to the depth of 350 feet before reaching a supply of water, and even then the sand ran with the water in such a way as to make the steam-pump machinery nearly useless. It has already been observed that the ground rises from the north bank of the Thames—this it continues to do to the northern suburbs, Hampstead and Highgate. The ascent in town is in most places so gradual as to be scarcely perceptible; consequently the town is considered flat, and indeed it is so far level as to entail on the inhabitants an enormous expense in the proper construction and maintenance of shores and drains to meet the demands of common cleanliness, comfort, and even safety from disease; actual measurement, however, shows that the declivity is not only sufficient for this purpose, but that the difference of elevation in various parts of the town is very considerable.—*Dr Hogg's London as it is.*

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